

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

CELLULAR EVOLUTION LLC,	§	
	§	
Plaintiff,	§	
	§	
v.	§	Case No. 2:19-cv-00232-JRG
	§	<i>(Lead Case)</i>
	§	
T-MOBILE US, INC. AND	§	
T-MOBILE USA, INC.,	§	
	§	
Defendants.	§	Jury Trial Requested
	§	
<hr/>		
CELLULAR EVOLUTION LLC,	§	
	§	
Plaintiff,	§	
	§	
v.	§	Case No. 2:19-cv-00228-JRG
	§	<i>(Consolidated Case)</i>
	§	
AT&T MOBILITY LLC AND	§	
CRICKET WIRELESS LLC,	§	
	§	
Defendants.	§	Jury Trial Requested
	§	
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PLAINTIFF CELLULAR EVOLUTION LLC’S
OPENING CLAIM CONSTRUCTION BRIEF

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I. INTRODUCTION

For the disputed terms, Plaintiff Cellular Evolution proposes constructions that are supported by the patent specifications and the specific claim language chosen by the patentee. In contrast, Defendants' constructions repeatedly read in limitations from a handful of preferred embodiments and manufacture requirements from extrinsic evidence that has no relevance to the constructions at issue. Defendants' attempts to rewrite the claims are not supported by either the intrinsic record or the declaration of their own expert, Dr. Acampora, who merely offers conclusory statements as to the meaning of the disputed claim language. Accordingly, Plaintiff respectfully requests that the Court adopt its proposed claim constructions.

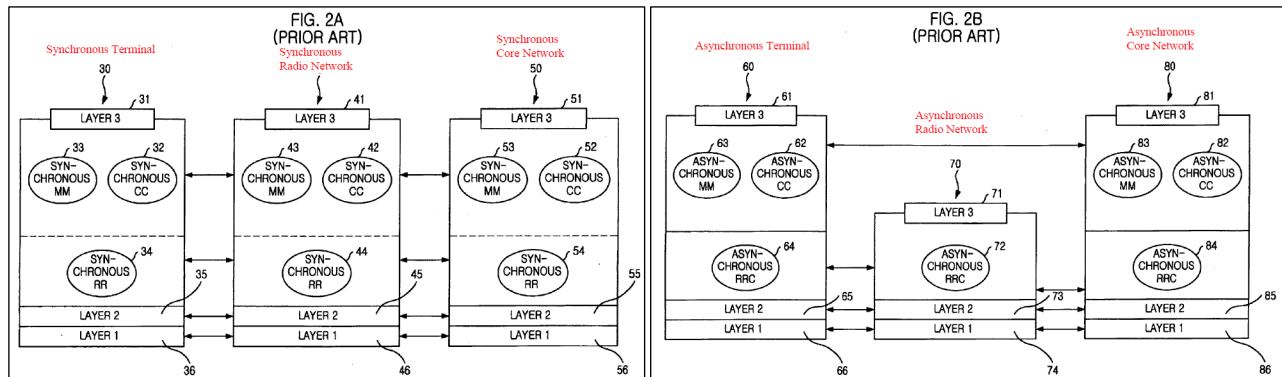
II. THE ASSERTED PATENTS

The five asserted patents in this case are from the same patent family and share the same specification.¹ The patents were all originally assigned to Pantech, which was the third largest cell phone manufacturer in South Korea after Samsung and LG at the time of filing of the patents. Pantech was an early contributor to the Universal Mobile Telecommunications System (UMTS) standards for 3G mobile networks. All five patents were declared essential to the European Telecommunications Standards Institute (ETSI), which publishes technical standards that are incorporated in cell phones and mobile networks around the world. The solutions in the patents were standardized in the UMTS Radio Resource Control (RRC) Protocol, which describes certain connections established between a mobile terminal, a radio network, and a core network.

In particular, the solutions in the asserted patents generally relate to techniques for interfacing between three particular components in a mobile telecommunications system: (1) a mobile terminal; (2) a base station (BS) on a radio network; and (3) a core network. '868 Pat. at

¹ U.S. Patent Nos. 6,741,868 (the "'868 Patent"); 7,110,788 (the "'788 Patent"); 7,203,514 (the "'514 Patent"); 7,505,783 (the "'783 Patent"); and 8,285,325 (the "'325 Patent"). Exs. 1-5.

1:9-12. The asserted patents solved a challenge in the art whereby components with an “asynchronous” operating type could not communicate with components with a “synchronous” operating type. *See* ’868 Pat., Ex. 1, at FIGS. 2A, 2B (annotated shown below), 2:21-28, 2:40-47.



The lack of interoperability between asynchronous and synchronous components led to two separate systems that could not communicate with each other: synchronous mobile telecommunications systems and asynchronous mobile telecommunications systems. This divide led to various inefficiencies, so developers of next-generation systems sought “to unify” the various mobile communication networks into one. ’868 Pat. at 6:32-35. The unified system required “new system concept, high level adaptation technology, and novel network technology as well [as] conventional technologies that were already adopted in the second [generation] digital cellular system.” *See id.* at 6:43-8:3. Against this backdrop, the asserted patents addressed the incompatibility between the two systems by creating a new approach that allowed mobile terminals to connect to both synchronous and asynchronous core networks. ’868 Pat. at 14:36-44; FIGS. 4A-5D; 14:4-16:52.

III. RELEVANT LEGAL STANDARDS

The purpose of claim construction is to resolve the meanings and technical scope of claim terms. *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997). Accordingly, claim construction begins with and “remain[s] centered on the claim language itself.” *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004).

Claims are to be construed from the perspective of a person of ordinary skill in the art of the field of the patented invention at the time of the effective filing date of the patent application. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (*en banc*). If commonly understood words are used in the claims, then the “ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.” *Id.* at 1314. “Elaborate interpretation” is not required. *Id.* To do otherwise would convert claim construction from “a matter of resolution of disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims,” into “an obligatory exercise in redundancy.” *U.S. Surgical*, 103 F.3d at 1568. Thus, “district courts are not (and should not be) required to construe every limitation present in a patent’s asserted claims.” *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008).

When an ordinary meaning is not apparent, the courts look to the language of the claims, the specification, prosecution history, and extrinsic evidence such as dictionaries and treatises. *Phillips*, 415 F.3d at 1314-18. Construction begins with the language of the claim, and the court “presume[s] that the terms in the claim mean what they say.” *Power Integrations, Inc. v. Fairchild Semiconductor Int’l, Inc.*, 711 F.3d 1348, 1360 (Fed. Cir. 2013) (citing *Phillips*, 415 F.3d at 1312). Also, “the context in which a term is used in the asserted claim can be highly instructive.” *Phillips*, 415 F.3d at 1314; *see also Abtox, Inc. v. Exitron Corp.*, 122 F.3d 1019, 1023 (Fed. Cir. 1997) (“[T]he language of the claim frames and ultimately resolves all issues of claim interpretation.”). The prosecution history may also be helpful. *Phillips*, 415 F.3d at 1317. However, “it often lacks the clarity of the specification and thus is less useful for claim construction purposes.” *Id.* Extrinsic evidence may provide guidance in some circumstances, but should not be used to

“change the meaning of the claims in derogation of the indisputable public records consisting of the claims, the specification and the prosecution history.” *Id.* at 1319 (quotation marks omitted).

IV. DISPUTED TERMS

A. “Terminal” Limitations

Claim Term/Patent	Cellular Evolution’s Proposal	Defendants’ Proposal
<p>“terminal” as used in the following independent claims (and asserted dependents):</p> <ul style="list-style-type: none"> • ’788 Patent, Claims 1, 57 • ’783 Patent, Claims 1, 2, 7, 8 • ’325 Patent, Claims 1, 2, 7, 9 	<p>No construction is necessary.</p>	<p>Defendants argue that all instances of “terminal” are limited to a “hybrid-type” terminal, which they propose construing as:</p> <p>“a terminal that can adaptively set a protocol to seamlessly switch between interfacing with synchronous and asynchronous core networks to match received core network operating type information”</p>
<p>“wherein . . . the terminal has a hybrid operating type” as used in the following independent claims (and asserted dependents):</p> <ul style="list-style-type: none"> • ’868 Patent, Claim 27 • ’788 Patent, Claims 17, 37 • ’514 Patent, Claims 1, 3 	<p>For the specific claims that recite that the “terminal” has “a hybrid-operating type,” Plaintiff proposes construing “terminal” to mean:</p> <p>“a terminal that can adaptively set a protocol to interface with synchronous and asynchronous core networks to match received core network operating type information”</p>	

The dispute between the parties for “terminal” is two-fold, as shown in the table above. First, Defendants propose a requirement that *all* terminals recited in the claims have a hybrid operating type. This requirement is unsupported because the asserted claims explicitly specify whether or not the recited terminal must be a hybrid type terminal, as shown in the chart above. Therefore, for the claims that do *not* specify that the terminal “has a hybrid operating type”—as identified in the first row in the table above—the Court should reject the Defendants’ argument and adopt the plain and ordinary meaning of “terminal.”

Second, for the claims that specify that the terminal “has a hybrid operating type”—as identified in the second row of the table above—the parties disagree over what a hybrid-type terminal *is* in the context of the claims. Specifically, Defendants propose that a hybrid-type terminal must be able to “seamlessly switch” between an interface with a synchronous and asynchronous core network. However, this limitation is manufactured from Cellular Evolution’s generic description of the benefits of the patents as contained in a *pleading* filed in this case, which cannot expand or narrow the actual claim language of an issued patent. In contrast, Cellular Evolution’s construction is well-supported by the intrinsic record and does not improperly import limitations from non-contemporaneous extrinsic evidence. As such, the Court should adopt Cellular Evolution’s construction for the claims that explicitly recite a hybrid operating type for the terminal.²

1. Hybrid-Type Terminals Are Permissive Embodiments

Defendants proposed “construction” for the term “terminal” is to add the words “hybrid-type” to that term. Defendants import the “hybrid-type” requirement from the preferred embodiments in the specification, and therefore commit “one of the cardinal sins of patent law.” *See Phillips*, 415 F.3d at 1320 (identifying “one of the cardinal sins of patent law” as “reading a limitation from the written description into the claims.”) (citation omitted); *see also, e.g., GE Lighting Sols., LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014) (“[I]t is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited.” (quoting *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004))); *Decisioning.com, Inc. v. Federated Dep’t Stores, Inc.*, 527 F.3d 1300,

² The asserted claims that explicitly recite a hybrid-type terminal are claim 27 of the ’868 Patent, claims 17 and 37 of the ’788 Patent, and claims 1 and 3 of the ’514 Patent (as well as asserted dependents). *See* Dkt. No. 62, Ex. A.

1314 (Fed. Cir. 2008) (“[The] description of a preferred embodiment, in the absence of a clear intention to limit claim scope, is an insufficient basis on which to narrow the claims.”).

Defendants propose that *all* of the terminals recited in the asserted claims have a hybrid operating type, even though the patentee has explicitly recited “a terminal [having] a hybrid operating type” in certain claims and not others,³ and even though there is no disclaimer that supports this requirement. Indeed, Cellular Evolution’s position is well-supported by the intrinsic record. In particular, the specification and claims both describe novel terminals and radio networks with hybrid operating types, but demonstrates no intent to alter the scope of the broad terms used in the asserted patents to refer to prior art devices.⁴

First, the specification uses the disputed terms to describe both conventional and hybrid-type devices. *See, e.g.*, ’868 Patent at 2:21-28 (describing “conventional synchronous mobile telecommunications system, [wherein] the *synchronous terminal* 11 can be connected to only the *synchronous radio network* 12 as well known to one skilled in the art” (emphasis added)), 13:1-4 (“FIG. 9 shows a Sync channel message received by a *hybrid type synchronous terminal* from in [sic] a *hybrid type synchronous radio network*” (emphasis added)). Defendants’ expert, Dr. Acampora, also does not dispute that “terminal” and “radio network” are used to describe non-hybrid devices in the art. *See* Ex. 7 (“Acampora”) ¶¶ 30-33, 38-39, 52. To distinguish hybrid-type devices, the specification explicitly uses modifiers such as “hybrid type” or “has a hybrid operating type.” *Compare, e.g.* ’868 Patent at 1:61-2:5 with ’868 Patent at 14:19-27. *See also, e.g., id.* at FIGS. 1A-1B, 4A-4D; 2:21-28; 6:65-7:20; 7:65-8:3; 15:66-16:5; 16:20-28.

³ *Compare, e.g.*, ’868 Patent at claim 27 with ’788 Patent at claims 1, 57.

⁴ Though the present dispute relates to the term “terminal,” the usage of “radio network” is instructive, and therefore is also included in the analysis here. Like the hybrid-type terminal disclosed in the specification, hybrid-type radio networks represented an advancement over prior art radio networks that allowed interfacing with core networks of both asynchronous and synchronous operating types. ’868 Patent at 6:65-7:20. The specification demonstrates no intent to limit the broad terms “terminal” and “radio network” to devices with a hybrid operating type.

Second, even though every patent claim uses the same modifiers to indicate whether devices have a hybrid operating type, Defendants propose to ignore the effect of these express limitations in the claims. This would violate well-established canons of claim construction by rendering the claim limitations superfluous. *See Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 950-51 (Fed. Cir. 2006) (rejecting construction that would read limitations out of the claim); *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 29 (1997) (“Each element contained in a patent claim is deemed material to defining the scope of the patented invention”). For example, each claim specifies operating types for some or all of the terminal, radio network, and core network. *See, e.g.*, ’788 Patent at claim 1; ’514 Patent at claim 1; ’783 Patent at claim 1; ’325 Patent at claim 1. Based on the stated objective of the patents, the recited operating types are not extraneous because they alter the scope of the inventions by covering combinations of hybrid and non-hybrid devices. *See* ’868 Patent at 6:32-7:8. Specifically, the patents are directed to solutions that aimed to unify then-existing mobile networks, and thus the claims cover embodiments that use various combinations of hybrid and non-hybrid devices. *See id.* at 6:43-46 (“IMT-2000 system requires new system concept, high-level adaptation technology, and novel network technology, as well as all conventional technologies which were already adopted in the second digital cellular system.”).

Defendants have no basis for overriding the explicit claim limitations with a “hybrid-type” requirement. The claim terms should reflect the broad usage in the specification, which demonstrates that both “terminal” and “radio network” can refer to non-hybrid devices. *See 3M Innovative Properties Co. v. Tredegar Corp.*, 725 F.3d 1315, 1329 (Fed. Cir. 2013) (“[O]ur cases do not support prescribing a more particularized meaning unless a narrower construction is required by the specification or prosecution history” (citations omitted)); *cf. also Kara Tech. Inc. v. Stamps.com Inc.*, 582 F.3d 1341, 1347-48 (Fed. Cir. 2009) (declining to limit the scope of broad

claim term to a feature “repeatedly discusse[d]” in the specification because “[t]he patentee is entitled to the full scope of his claims”). While Defendants have indicated an intent to rely on certain pages of the prosecution history of the ’788 patent, none of the cited pages addresses the constructions for either disputed term, much less show any disclaimer to limit the scope of the terms as Defendants suggest. *See* ’788 File History, Office Action Response dated August 10, 2005, attached as Ex. 6, at CEL00000581-583.

Third, it is evident that the Patentee was well aware of the distinction between hybrid and non-hybrid components and explicitly narrowed the claims to be directed to hybrid-type components where applicable and not otherwise. For instance, based on a comparison of the claims in the asserted patents, only the first-filed ’868 Patent was explicitly drawn to the specific hybrid-type devices described in the preferred embodiments. For example, with respect to radio networks, the ’868 Patent claims are directed to the hybrid-type radio networks described in Embodiments 1 and 2. *See* ’868 Patent at 18:18-65 (describing steps performed on base station of hybrid-type synchronous radio network in Embodiment 1); 21:9-22:5 (describing steps performed on radio network controller of hybrid-type asynchronous radio network in Embodiment 2). In particular, most claims in the ’868 Patent explicitly recite a “hybrid operating type” for the radio network, or recite that the radio network has a base station with a hybrid operating type. *E.g., id.* at claims 1, 15, 45, 58, 70, 83. Similarly, independent claims 27, 37, and 95 require a hybrid-type radio network because they recite steps that cannot be performed by non-hybrid radio networks with only one operating type.⁵ *See, e.g., id.* at claims 27, 37, 95.

⁵ For example, under claim steps (a) and (b), the radio network in claim 27 obtains information about a connected core network. *See* ’868 Patent at claim 27; 18:25-19:36. Neither step would be required if the radio network could not interface with both asynchronous and synchronous core networks.

After the '868 Patent, however, the later-issued claims in the '788, '514, '783, and '325 patents were broader in scope and demonstrate no intent to limit radio networks to a hybrid operating type. For example, several asserted claims recite that the terminal has a hybrid operating type but have no such limitation for the radio network. *E.g.*, '788 Patent at claim 37; '514 Patent at claim 3. Other asserted claims recite that the radio network has an “asynchronous operating type,” which reflects descriptions of non-hybrid asynchronous radio networks in the specification. *E.g.*, '788 Patent at claims 1, 57; '783 Patent at claims 1, 7, 8; *see* '868 Patent at 1:65-2:5 (describing “asynchronous radio network” in “conventional asynchronous mobile telecommunications system”); *see also* '783 Patent at claim 5 (unasserted claim that recites radio network with “asynchronous operating type,” but core network with hybrid operating type). Defendants’ proposed construction requiring every recited “radio network” to be hybrid would render meaningless these claims which explicitly require a non-hybrid asynchronous radio network. Defendants’ construction would therefore improperly rewrite the later-issued claims in the '788, '514, '783, and '325 patents and restrict them to permissive embodiments in the specification.

Defendants’ extrinsic evidence fares no better and does not support the imposition of a “hybrid-type” limitation. Dr. Acampora’s analysis improperly relies on permissive embodiments to reach his conclusion that “hybrid-type” is a requirement of the terms “terminal” and “radio network.” Specifically, he cites various illustrative descriptions of terminals and radio networks from the specification, arguing that those descriptions only make sense in the context of hybrid devices. *See, e.g., id.* ¶¶ 57-58 (“That is, the ‘present invention’ would not work without using at least a . . . ‘hybrid type’ radio network as described above”); *see also* ¶¶ 59-62. This analysis is circular because the preferred embodiments he cites to explicitly describe the use of hybrid-type devices. However, Dr. Acampora makes no attempt to analyze how the disputed terms are used

in the various *claims*, so his opinions at best only establish that the terminals and radio networks have a hybrid operating type in the described embodiments he cites. *See* ¶¶ 63-64.

Because the addition of the “hybrid-type” requirement to the term “terminal” has no support in intrinsic or extrinsic evidence, the Court should reject this requirement for claims that do not explicitly recite a hybrid-type terminal. Defendants have not otherwise proposed a construction for “terminal” and therefore, the plain and ordinary meaning of “terminal” should govern in claims that do not explicitly recite terminals with a hybrid operating type.

2. “Seamlessly Switch[ing]” Between Core Networks Is Not a Requirement of Hybrid-Type Terminals

The only difference between the parties’ proposed constructions for the term “wherein . . . the terminal has a hybrid operating type” is Defendants’ requirement that the hybrid terminal “seamlessly switch” between core networks. Defendants proposed definition for “hybrid-type” terminals is unsupported by the evidence and introduces unnecessary ambiguity. The words “seamlessly switch” appear nowhere in the intrinsic record, and instead derives from a single allegation from Paragraph 59 of Cellular Evolution’s *complaint*:

The methods disclosed in the Asserted Patents allow a hybrid terminal to seamlessly switch from a core network having one synchronization type to a core network having another synchronization type. As such, the Asserted Patents improve operational flexibility of a mobile terminal.

Plaintiff’s Am. Compl., Dkt. No. 28, ¶ 59 (emphasis added). The pleading has limited probative value, however, because it is extrinsic evidence that originated more than *twenty years* after the effective filing date of the asserted patents. *See Innova*, 381 F.3d at 1116 (“A court construing a patent claim seeks to accord a claim the meaning it would have to a person of ordinary skill in the art at the time of the invention.”).

Dr. Acampora appears to rely on an excerpt from the specification to support Defendants’ “seamlessly switch” limitation. Acampora ¶¶ 62. *See also id.* ¶¶ 57-61. In particular, the

specification describes that “the method or the apparatus for interfacing in accordance with the present invention adaptively sets a protocol on the basis of an operating type of the core network and smoothly interfaces among the terminal, the base station and the core network.” ’868 Patent at 20:48-52. However, the specification does not support Defendants’ construction for several reasons.

First, each instance of the “smoothly interfaces” language is used to describe a permissive embodiment in the specification. ’868 Patent at 20:48-52 (referring to Embodiment 1); 23:33-39 (context of Embodiment 2). As such, Defendants repeat the error of “reading a limitation from the written description into the claims.” *See Phillips*, 415 F.3d at 1320.

Second, the “smoothly interfaces” disclosure has no limiting effect because it is a **result** of practicing the methods described in the specification. *See, e.g.*, ’868 Patent at 20:48-52. The Federal Circuit has held that the necessary results of practicing an invention do not limit the substance of claims, **even when recited in claim language**. *See In re Omeprazole Patent Litig.*, 536 F.3d 1361, 1370 (Fed. Cir. 2008) (refusing to read in a limitation where the term “enhanced stability” only referred to the intended result of the invention); *cf. also Texas Instruments Inc. v. U.S. Int’l Trade Comm’n*, 988 F.2d 1165, 1172 (Fed. Cir. 1993) (“A ‘whereby’ clause that merely states the result of the limitations in the claim adds nothing to the patentability or substance of the claim.”). Of course, in this case, the “smoothly interfaces” verbiage appears nowhere in the claims, and Defendants have no legitimate basis to import a result that is described only in the specification. To hold otherwise would permit Defendants to generate a string of unnecessary limitations by incorporating results or advantages described in the specification and pleadings.

Third, the ability to “smoothly interface[]” is described as an advantage of practicing the claimed methods, but Defendants somehow argue that they represent limitations for the term “terminal.” ’868 Patent at 20:48-52 (“[a] **method** or [an] apparatus . . . smoothly interfaces among

the terminal, the base station and the core network.” (emphasis added)); *see also id.* at 23:33-39 (terminal “can smoothly **be** interfaced with the connected core network” by practicing disclosed invention). The specification and claims make clear that the methods are directed to an interface that not only covers the terminal, but also the radio network and core network. By referencing a concept that relate to the broader interface, Defendants’ construction risks importing improper limitations into the claims. For instance, in light of the specification, the act of “**smoothly** interfac[ing]” is not only a function of steps performed at the terminal, but also the radio network and core network. *See id.*

In contrast, Cellular Evolution’s construction is well-supported by the intrinsic evidence, rendering the verbiage in Defendants’ construction unnecessary. As the specification discloses in numerous instances, conventional terminals could only interface with either an asynchronous core network or a synchronous core network. *See, e.g.,* ’868 Patent at 2:21-28. *See also id.* at 1:61-2:5; 2:40-47; FIGS. 1A, 1B. To address this deficiency, the asserted patents proposed hybrid-type terminals with new protocol entities that were interoperable with both types of core networks:

In order to be operable adaptively to the above four interface architectures, each of the hybrid type Synchronous and asynchronous terminals in the next-generation mobile telecommunications System has both asynchronous CC and MM protocol entities serving for the GSM-MAP core network and synchronous CC and MM protocol entities serving for the ANSI-41 core network at the layer 3 in the protocol Stack Structure, which is a different from each of the conventional Synchronous and asynchronous terminals.

Id. at 14:36-44; *see also, e.g., id.* at FIGS. 2A-2B, 5A-5D; 2:52-62; 14:47-65. Specifically, the hybrid type terminal “selectively makes a CC/MM protocol active according to a core network type,” thereby allowing the terminal to interface with either an asynchronous or synchronous core network. *Id.* at 14:61-15:4; 15:25-32 (activating protocols to interface with synchronous ANSI-41 and asynchronous GSM-MAP core networks). *See also id.* at 20:14-21; 20:31-39; 23:5-12; 23:25-33. To the extent these disclosures represent a “switch between interfacing with

synchronous and asynchronous core networks,” that switch is already captured in the agreed portion of the parties’ construction: “a terminal that can adaptively set a protocol . . . to match received core network operating type information.”

Even Defendants’ own expert, Dr. Acampora, tacitly concedes that the intrinsic record offers no actual support to include the “seamlessly switch” limitation. Beyond three conclusory sentences, Dr. Acampora makes no actual attempt to explain why “seamlessly switch” is a requirement, or what this limitation means in view of the specification. *See* Acampora ¶¶ 57-63. In fact, his discussions of what “hybrid-type” means for the terminal are entirely consistent with Cellular Evolution’s construction:

- “A POSITA at the time of the alleged invention would have understood that the Asserted Patents use the term ‘hybrid type’ to refer to terminals and radio networks that recognize and interface with core networks of both operating types This is consistent with usage throughout the Asserted Patents.” *Id.* ¶ 49.
- “[T]he Asserted Patents describe ‘each of the terminal and the radio network’ having ‘a hybrid operating type’ as ‘being possible to be set as either a synchronous operating type or an asynchronous operating type.’ . . . A POSITA at the time of the alleged invention would have understood that this description is consistent with the usage of ‘hybrid type’ throughout the Asserted Patents.” *Id.* ¶ 51.
- “That is, what makes these components ‘hybrid’ is . . . the ability to selectively interoperate with a synchronous or asynchronous core network while operating in a single radio access technology.” *Id.* ¶ 55.

See also id. ¶¶ 46, 52-55. Given that Cellular Evolution’s construction is consistent with the intrinsic record and statements from Defendants’ own expert, the Court should reject Defendants’ attempts to grasp at straws and introduce improper limitations into the claims. As such, the Court should adopt Cellular Evolution’s proposed construction in the claims that explicitly recite a hybrid operating type for the terminal.⁶

⁶ As identified in the chart above on Page 4, the asserted claims that explicitly recite a hybrid-type terminal are claim 27 of the ’868 Patent, claims 17 and 37 of the ’788 Patent, and claims 1 and 3 of the ’514 Patent (and asserted dependents). *See also* Dkt. No. 62, Ex. A.

B. “Radio Network”

Claim Term/Patent	Cellular Evolution’s Proposal	Defendants’ Proposal
<p>“radio network” as used in the following independent claims (and asserted dependents):</p> <ul style="list-style-type: none"> • ’788 Patent, Claims 1, 17, 37, 57 • ’514 Patent, Claims 1, 3 • ’783 Patent, Claims 1, 2, 7, 8 • ’325 Patent, Claims 1, 2, 7, 9 	a network including a plurality of base transceiver stations (BTS) and at least a base station controller for controlling the plurality of BTSs in a synchronous or an asynchronous mobile telecommunication system	Defendants argue that all instances of “radio network” are limited to a “hybrid-type” network, which they propose construing as:
<p>“hybrid-type radio network” as referenced in the previously agreed construction for the following claim:</p> <ul style="list-style-type: none"> • ’868 Patent, Claim 27 	No further construction is necessary to clarify what “hybrid-type” means in the context of Claim 27 of the ’868 Patent. ⁷	“a radio network that can adaptively set a protocol to seamlessly switch between interfacing with synchronous and asynchronous core networks to match the determined current core network operating type that can adaptively set a protocol to seamlessly switch between interfacing with synchronous and asynchronous core networks to match the determined core network operating type”

The parties’ disputes for “radio network” mirror the two disputes for “terminal.” First, Defendants propose the same “hybrid-type” requirement for all radio networks, even though that

⁷ To the extent the Court determines a construction is necessary, the term should be construed as: “a radio network configured to store information specifying the one or more operating type(s) of the connected core network and information related to the core network on a storage device, read the information specifying the one or more operating type(s) of the connected core network and information related to the core network stored on the storage device during a time period of initialization of the BS, and provide the terminal with the information specifying the one or more operating type(s) of the connected core network and information related to the core network as a message through a predetermined channel.” This construction incorporates the steps performed by the radio network of claim 27 and incorporates the proposed construction for the term “core network operating type information.”

phrase is not limited to a hybrid-type radio network. Indeed, the dispute for the term “radio network” has even less merit because the patentees *define* the term in the specification. Accordingly, the Court should adopt the express definition for “radio network” in the claims that do not recite a radio network with a hybrid operating type, as identified in the table above.

Second, the parties dispute whether there is a need to further construe hybrid-type radio networks. Cellular Evolution proposes no construction is necessary in the context of the claim 27 of the '868 Patent, which is the only claim at issue that implicitly recites a hybrid-type radio network.⁸ If the Court determines a construction is necessary, the construction for hybrid-type radio network should reflect the claim steps recited for the radio network in claim 27.

1. The Specification Explicitly Defines Radio Network

Cellular Evolution's proposed construction should be adopted because it recites the patentees' own definition of “radio network,” which has no “hybrid-type” limitation. As well established by the Federal Circuit, a patent specification “may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor's lexicography governs.” *Phillips*, 415 F.3d at 1316. Here, the patentees chose to define the term “radio network” as follows:

In the specification, a radio network means a network including a plurality of base transceiver stations (BTS) and at least a base station controller for controlling the plurality of BTSs in a synchronous or an asynchronous mobile telecommunication system.

E.g., '868 Patent at 13:53-57 (emphasis added). The underlined portion is Cellular Evolution's proposed construction, word for word. Because the patentee expressly defined the term in this

⁸ During meet-and-confers to reduce the number of disputed terms, the parties agreed upon a construction that limits the radio network in independent claim 27 of the '868 Patent to a “hybrid-type radio network.” See Dkt. No. 62, Ex. A. However, Cellular Evolution maintains that this construction is redundant because the radio network in claim 27 must be a hybrid-type radio network in order to perform the method steps recited in claim 27.

manner, the express definition governs. *See, e.g., Jack Guttman, Inc. v. Kopykake Enterprises, Inc.*, 302 F.3d 1352, 1360-61 (Fed. Cir. 2002) (“Where, as here, the patentee has clearly defined a claim term, that definition usually is **dispositive**; it is the **single best guide** to the meaning of a disputed term.” (emphasis added)); *see also Renishaw PLC v. Marposs Societa’ Per Azioni*, 158 F.3d 1243, 1249 (Fed. Cir. 1998) (“[W]here a patent applicant has elected to be his own lexicographer by providing an explicit definition in the specification for a claim term, . . . the definition selected by the patent applicant controls.”); *Multiform Dessicants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1478 (Fed. Cir. 1998) (“When the specification explains and defines a term used in the claims, without ambiguity or incompleteness, there is no need to search further for the meaning of the term.”).

The intrinsic record offers no basis for narrowing the scope of patentees’ definition. As discussed above in Section IV.A., the specification does not express any intent to limit the scope of the broad term “radio network”. *See supra* at 6-10. The specification’s definition of “radio network,” on its face, is applicable to radio networks that have a single operating type. *See* ’868 Patent at 13:53-57 (radio network controller controls the base stations “in a synchronous **or** an asynchronous” system (emphasis added)). If the patentees had intended to restrict the definition to hybrid-type radio networks, they would have specified that the “radio network” was operable in **both** synchronous and asynchronous systems. *See id.* Indeed, the specification uses the term “radio network” to describe both non-hybrid and hybrid-type radio networks. *See, e.g.,* ’868 Patent at FIGS. 1A-1B (using the term to describe non-hybrid radio networks in the prior art); FIGS. 4A-4B (hybrid-type radio networks in preferred embodiments). Because the intrinsic record leaves no ambiguity about the definition of “radio network,” the Court should adopt the definition in the specification without referring to extrinsic evidence.

2. No Definition of “Hybrid-Type Radio Network” Is Necessary for Claim 27 of the ’868 Patent

No construction is necessary for the “hybrid-type” limitation in the context of claim 27 of the ’868 Patent, which is the only asserted claim that implicitly recites a hybrid-type radio network. *See supra* at 15 n.8. The preamble of claim 27 recites an interface between a terminal, radio network, and core network, wherein the terminal has a hybrid operating type:

A method for interfacing among a terminal, a radio network and a core network connected to the radio network in a mobile telecommunication system, wherein the radio network has a base station (BS) and the terminal has a hybrid operating type being possible to be set as either a synchronous operating type or an asynchronous operating type

’868 Patent at claim 27. The body of claim 27 then provides steps that can only be performed by novel radio networks with a hybrid operating type. For example, under claim steps (a) and (b), the radio network in claim 27 obtains information about a connected core network. *Id.*; *see also id.* at 18:25-19:36. Steps (a) and (b) are performed by a radio network that interfaces with both asynchronous and synchronous core networks. Accordingly, the specific radio network recited in claim 27 is necessarily a radio network that (i) communicates with a hybrid-type terminal and (ii) is configured to communicate with both asynchronous and synchronous core networks. Given the context of the claim, no further construction is necessary to clarify what makes the radio network a “hybrid-type” radio network.

To the extent the Court deems a construction is necessary for “hybrid-type radio network,” Cellular Evolution proposes a construction that reflects the limitations of radio networks recited by claim 27 of the ’868 Patent—under which the radio network is configured to: (1) store information about the connected core network, (2) read the stored information about the connected core network during a time period of initialization at the base station, and (3) provide the terminal with the information about the connected core network. *See supra* at 14 n.7; *see also* ’868 Patent claims 1, 15, 27, 37, 45, 58, 70, 83, 95.

C. Core Network Information Limitations

Claim Term/Patent	Cellular Evolution's Proposal	Defendants' Proposal
<p>“core network operating type information” / “information element identifying an/the operating type of a/the core network” as used in the claims below :</p> <ul style="list-style-type: none"> • '868 Patent, Claims 27, 31, 34 • '788 Patent, Claims 1, 3, 4, 7, 13, 16, 17, 19 • '514 Patent, Claims 1, 3 • '783 Patent, Claims 1, 2, 7, 8 • '325 Patent, Claims 1, 2, 7, 9 	<p>information specifying the one or more operating type(s) of the connected core network</p>	<p><u>adaptively set</u> information specifying the one or more operating type(s) of the connected core network</p>

Defendants import yet another artificial limitation from the specification, even though the intrinsic record never uses the phrase “adaptively set” to describe “core network operating type information” or an “information element identifying an/the operating type of a/the core network” (collectively, “‘operating type’ elements”). In the intrinsic record, the phrase “adaptively sets” is used in two instances, both within the specification:

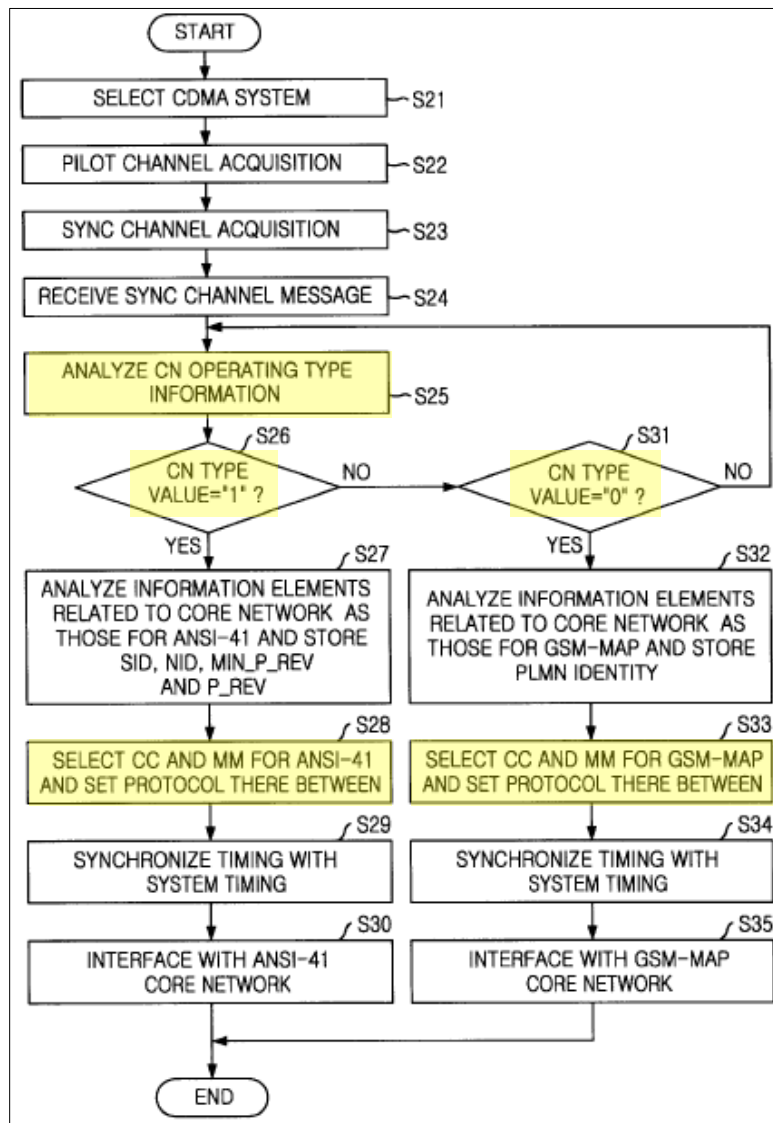
- “*As described above*, the method and the apparatus in accordance with the present invention adaptively sets a protocol and interfaces among the terminal, the base station and the core network on the basis of an operating type of the core network.” '868 Patent at 17:52-59 (emphasis added).
- “*As described above*, the method or the apparatus for interfacing in accordance with the present invention adaptively sets a protocol on the basis of an operating type of the core network and smoothly interfaces among the terminal, the base station and the core network.” *Id.* at 20:48-52 (emphasis added).

This usage from the specification has no bearing on the “operating type” elements because the phrase “adaptively sets” describes a **result** of the disclosed embodiments. In contrast, the “operating type” elements in the claims are included in messages that are transmitted to **accomplish that result**. See, e.g., '788 Patent at claim 1 (message with “core network operating type information” provided from the radio network to the terminal). Accordingly, Defendants’

construction is fundamentally flawed because it seeks to use the desired result of practicing the methods as a whole to improperly narrow a discrete claim element.

Furthermore, the “operating type” elements are used to achieve the result of “adaptively set[ting] a protocol” regardless of whether those “operating type” elements are themselves adaptively set. The flawed nature of Defendants’ construction is apparent from their attempt to import a verb to construe the nouns at issue and require an action where none is otherwise required. For instance, the specification repeatedly describes that the terminal “sets a protocol according to the core network related information.” *See id.* at 8:23-27 (emphasis added); *see also, e.g., id.* at FIG. 11B, 1:37-42, 8:35-40, 23:25-32. Specifically, the terminal “recognizes the core network on the basis of the core network operating type information and sets a protocol” based on the core network operating type information transmitted from the radio network. *See id.* at 8:15-27; *see also* 8:28-40. All of the preferred embodiments in the specification are consistent with this sequence of events, and thus show that the **terminal** “adaptively sets” a protocol by detecting the operating type of the connected core network. *See, e.g., id.* at 14:56-15:4; 19:64-20:39; 23:20-32.

To interface with the connected core network, the terminal must receive “information [that] specif[ies] the one or more operating type(s) of the connected core network,” which is recited in the agreed portion of the construction and captures the full scope of the “operating type” elements. For example, Embodiment 1 of the specification describes a binary “CN Type” element that denotes whether the connected core network has an asynchronous GSM-MAP operating type or a synchronous ANSI-41 operating type. *See, e.g., id.* at 18:66-19:19 (“As shown in this drawing, the **core network operating type information** CN Type of ‘0’ or ‘1’ is written in a first field of the Sync channel message” (emphasis added)); FIGS. 9A-9B (different Sync channel messages for each CN Type). The terminal analyzes this “CN Type” information, and selects a protocol that corresponds to the operating type of the connected core network:



Id. at FIG. 11B; 13:30-36. To the extent the “CN Type” information is “adaptively set” in this example, it is by virtue of specifying the operating type of the connected core network. By including this operating type information in messages between devices, the claims provide the very steps needed to achieve the “adaptively set[ting] a protocol” to interface among the terminal, base station, and core network. *See, e.g.*, ’868 Patent at claim 27. Therefore, Defendants’ construction improperly narrows the scope of the asserted claims without any support from the specification.

In fact, the “adaptively set” limitation is not coherent in the context of the claims. For instance, if this Court adopted Defendants’ construction for claim 27 of the ’868 Patent, the relevant portion would read:

- a) storing [*adaptively set information specifying the one or more operating type(s) of the connected core network*] and information related to the core network on a storage device;
- b) reading the [*adaptively set information specifying the one or more operating type(s) of the connected core network*] and information related to the core network stored on the storage device during a time period of initialization of the BS;
- c) providing the terminal with the [*adaptively set information specifying the one or more operating type(s) of the connected core network*] and information related to the core network as a message through a predetermined channel;
- d) extracting, at the terminal, the [*adaptively set information specifying the one or more operating type(s) of the connected core network*] from a received message, the core network operating type information being inserted into a predetermined location of the received message;
- e) recognizing, at the terminal, the operating type of the core network on the basis of the extracted [*adaptively set information specifying the one or more operating type(s) of the connected core network*]; and
- f) setting an operating type of the terminal to the synchronous operating type or the asynchronous operating type on the basis of the recognized operating type of the core network.

See ’868 Patent claim 27. But there is no clarity, for example, about (1) the step at which the information is considered “adaptively set” information; (2) whether the information needs to be “adaptively set” at each claim step to infringe; or (3) what devices, if any, are “adaptively set[ting] the information.”

The declaration of Defendants’ expert provides no support for Defendants’ construction. In a single conclusory sentence, Dr. Acampora states that a person of ordinary skill in the art would adopt Defendants’ construction. See Acampora ¶ 63. However, his conclusion is premised on descriptions of “adaptively set[ting] a protocol among the terminal, radio network, and core network, see *id.* ¶¶ 60-61, which fails to address whether “operating type” information itself is adaptively set. See *supra* at 19-20. Accordingly, the Court should reject Defendants’ construction

for the terms “core network operating type information” and “information element identifying an/the operating type of a/the core network.”

D. “Storage Device” Limitations

Claim Term/Patent	Cellular Evolution’s Proposal	Defendants’ Proposal
“ storage device ” as used in the ’868 Patent, Claim 27 (and asserted dependents)	No construction is necessary. The meaning of the term, as used in the context of the claims, is well understood. ⁹	Explicitly reject Cellular Evolution’s assertion that this term recites an “unconventional component.” <i>See</i> Dkt. No. 50 at 6-7. No further construction necessary.

Defendants raise a dispute from T-Mobile’s motion to dismiss under 35 U.S.C. § 101, which pertains to patent eligibility issues that are beyond the scope of claim construction. As an initial matter, Defendants’ proposal omits relevant context from the briefings. The cited assertion in Defendants’ proposal responded to T-Mobile’s contention that claim 27 of the ’868 Patent could not require hybrid-type devices because the claim does not “mention” hybrid equipment. *See* Defs.’ Reply in Supp. of Mot. to Dismiss, Dkt. No. 47, at 4 (“Plaintiff hinges its entire opposition on the argument that the claims require new ‘hybrid’ network components, but does not explain how that could possibly apply to claims which do not mention ‘hybrid’ equipment anywhere.”).¹⁰ To show that claim 27 covers hybrid-type devices, Cellular Evolution cited unconventional steps in claim 27 that were necessarily performed on a hybrid-type radio network, including the storage device of the base station. *See* Pl.’s Sur-Reply to Defs.’ Mot. to Dismiss, Dkt. No. 50, at 6-7.

⁹ To the extent the Court determines a construction is necessary to resolve the § 101 dispute, the term should be construed as: “a storage device for storing information specifying the one or more operating type(s) of the connected core network and information related to the core network.”

¹⁰ Notably, such statements contradict Defendants’ constructions that introduce an implicit hybrid-type requirement for the “terminal” and “radio network.” *See supra* at 4, 14-15.

Unlike the meanings of claim terms, patent eligibility is not a matter of law, and therefore should not be decided during claim construction. *See Berkheimer v. HP Inc.*, 881 F.3d 1360, 1368 (Fed. Cir. 2018) (whether a combination of elements was well-understood, routine, or conventional to a skilled artisan in the relevant field is a question of fact). The Court should reject Defendants' proposal to make a sweeping determination about the conventionality of the "storage device" outside the context of relevant pleadings.

V. CONCLUSION

Cellular Evolution respectfully requests that the Court adopt its claim construction positions.

Dated: March 31, 2020

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that all counsel of record who are deemed to have consented to electronic service are being served with a copy of this document via the Court's CM/ECF system per Local Rule CV-5(a)(3) on March 31, 2020.

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